



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/593,604

09/22/2006

Martin Munster

ZAHFRI P898US

2569

20210 7590 04/23/2009
DAVIS & BUJOLD, P.L.L.C.
112 PLEASANT STREET
CONCORD, NH 03301

EXAMINER

LICHTI, MATTHEW L

ART UNIT

PAPER NUMBER

3663

MAIL DATE

DELIVERY MODE

04/23/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/593,604	Applicant(s) MUNSTER, MARTIN	
	Examiner Matthew Lichti	Art Unit 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/21/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the actuators, active stabilizers, control device, and axels must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 9 objected to because of the following informalities: "determined driving condition" should be changed to —determining a driving condition—in order to be grammatically correct. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 5-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.
5. As presently set forth, the control device for adjusting a sway moment distribution is essentially a black box with no description of the internals thereof. The disclosure is thus insufficient in failing to set forth in an adequate and sufficient fashion, a description of the internals of the control device which would enable the device to perform all of the features (i.e., actively adjust a rear wheel camber angle, exert front and rear anti-sway moments, determine a feed back ratio of the rear to front anti-sway moments and a rear wheel camber angle, adjust the feedback ratio as a function of the camber angle, etc.) that are disclosed and claimed. If applicant is of the opinion that there is a description in

Art Unit: 3663

the prior art (in the form of literature, etc. having a date prior to the filing date of this application), of the internals of the control device for adjusting a sway moment distribution that can accomplish the disclosed and claimed features, copies of said literature, etc., must be submitted for appropriate review by the Office. See In re Ghiron et al, 169 USPQ 723, 727.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 5-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. The last limitation of claim 5 recites "a rear wheel camber angle". It is unclear if this is the same rear wheel camber angle recited in as being actively adjusted in the first limitation. The limitation could be changed to "the rear wheel camber angle".

9. Claims 5-9 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: detecting the camber angles and sway moments using sensors, calculating a feedback ratio as a result of the detected sway moments, actively exerting anti-sway moments to adjust the ratio. Camber angles naturally affect the vehicle suspension including swaying/rolling moments, which means that the ratio of the moments is a function of the camber angles. It is unclear what is actually being performed in the sway moment distribution adjustment step without steps to detect/calculate the feed back ratio and actively adjust it.

Art Unit: 3663

10. Claims 10-12 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: an input to the controller so that the controller can detect the camber angles, an input to the controller so that the controller can detect the sway moments and feed back ratio, outputs from the controller to the active stabilizers to adjust the sway moments calculated as a function of the detected camber angles.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 5, 6, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Young (U.S. Patent 4,700,972).

13. Regarding claim 5, Young discloses a method for regulating driving stability of a vehicle as a function of a driving condition, the method comprising the steps of:

actively adjusting a rear wheel camber angle of wheels of a rear axle (col. 3, lines 48-51);

Art Unit: 3663

exerting a front anti-sway moment, of a front axle, and a rear anti-sway moment, at the rear axle (continuous adjustment of front and rear camber angles to reduce cornering force, col. 3, lines 29 – 65; col. 4, lines 44-49; adjusts wheel heights to prevent roll, col. 5, lines 21-29; adjusts anti-roll bars, spring constant rates, and damping coefficients to reduce roll, col. 6, lines 3-30 & 61-65; col. 7, line 62 – col. 8, line 9), and

adjusting a sway moment distribution, which is feed back of a ratio of the rear anti-sway moment to the front anti-sway moment, as a function of a rear wheel camber angle of the wheels of the rear axle (the sway moment distribution can be adjusted by adjusting the camber of the front and rear wheels separately which is a function of the angles of the front and back wheels, col. 4, lines 14-21).

14. Regarding claim 6, Young discloses increasing the ratio of the rear anti-sway moment to the front anti-sway moment when the rear wheel camber angle of the wheels of the rear axle is reduced (front and rear wheels adjusted separately to increase the ratio, col. 3, line 66 – col. 4, line 21).

15. Regarding claim 8, Young discloses first regulating the driving stability according to the rear wheel camber angle, and then adapting the sway moment distribution to the adjusted rear wheel camber angle (continuously adjusts front and rear camber, spring and damping constants, roll bars, wheel heights etc. to regulate driving stability and

Art Unit: 3663

sway moment distribution; adjusts rear wheel camber one period for stability, followed by another adjustment the following period, col. 3, line 66 – col. 4, line 21).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Young (U.S. Patent 4,700,972) in view of Deal (U.S. Publication 2002/0171216)

18. Regarding claim 7, Young disclose active adjustments of the front and rear wheels (col. 3, lines 48-51) but do not particularly disclose passive adjustments.

Deal teaches both actively (par. 13) and passively (par. 16) adjusting camber angles.

It would have been obvious to one of ordinary skill in the art to modify the suspension system of Young to passively adjust the front wheel camber angles because active and passive adjustments are both well known and using both types of adjustments could improve performance.

19. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Young (U.S. Patent 4,700,972) in view of Haas (U.S. Pub. 2002/0163437).

20. Regarding claim 9, Young discloses determining a driving condition (lateral acceleration, vehicle body roll, cornering force, etc) and adjusting the rear wheel camber angle and the sway moment distribution according to the driving condition (col. 3, lines 48-65) but does not particularly disclose a characteristic curve.

Haas teaches using a characteristic curve to determine a relationship between traverse acceleration and roll angle (par. 17).

It would have been obvious to one of ordinary skill in the art to modify the suspension system of Young to use a characteristic curve because they are a well known way to store a relationship between variables, and would be an easy way to determine desired camber angles for a given lateral acceleration.

21. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young (U.S. Patent 4,700,972) in view of Ishii et al. (U.S. 4,828,283)

22. The “for” clauses of claim 10 and “wherein” clause of claims 11 & 12 are essentially method limitations or statements of intended or desired use. Thus, these claims as well as other statements of intended use do not serve to patentably distinguish the claimed structure over that of the reference. See In re Pearson, 181 USPQ 641; In re Yanush, 177 USPQ 705; In re Finsterwalder, 168 USPQ 530; In re

Art Unit: 3663

Casey, 512 USPQ 235; In re Otto, 136 USPQ 458; Ex parte Masham, 2 USPQ 2nd

1647. See MPEP § 2114 which states:

A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from the prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ 2nd 1647

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than functions. In re Danly, 120 USPQ 528, 531.

Apparatus claims cover what a device is not what a device does. Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528.

23. Regarding claim 10, Young discloses a chassis arrangement for driving stability regulation of a vehicle, the chassis arrangement comprising:

actuators for adjusting a wheel camber angle of wheels of a rear axle of the vehicle (camber control unit 10, control arms 5 or 6, col. 3, lines 6-24);

a control device (computing means 12) for adjusting a sway moment distribution, which is feed back of a ratio of the rear anti-sway moment to the front anti-sway moment, as a function of the wheel camber angle of the wheels of the rear axle (the sway moment distribution can be adjusted by adjusting the camber of the front and rear wheels separately which is a function of the angles of the front and back wheels, col. 4, lines 14-21). Young does not particularly disclose active stabilizers.

Ishi et al. teach a suspension system with camber control with an active stabilizer 60 (col. 6, lines 5-40)

It would have been obvious to one of ordinary skill in the art to modify the suspension system of young to include front and rear active stabilizers because active stabilizers are well known and would be an additional way of reducing roll and instability.

24. Regarding claim 11, Young discloses that the control device increases the ratio of the rear anti-sway moment to the front anti-sway moment when the rear wheel camber angle of the wheels of the rear axle is reduced (front and rear wheels adjusted separately to increase the ratio, col. 3, line 66 – col. 4, line 21).

25. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Young (U.S. Patent 4,700,972) and) in view of Ishii et al. (U.S. 4,828,283) and Deal (U.S. Publication 2002/0171216).

26. Regarding claim 12, Young modified by Ishi et al. do not particularly disclose passively adjusting camber angles.

Deal teaches both actively (par. 13) and passively (par. 16) adjusting camber angles.

It would have been obvious to one of ordinary skill in the art to modify the suspension system of Young to passively adjust the front wheel camber angles because active and passive adjustments are both well known and using both types of adjustments could improve performance.

Conclusion

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fujimura teaches a suspension system that varies the camber angles.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew Lichti whose telephone number is (571) 270-5374. The examiner can normally be reached on Monday - Friday 8:30 AM - 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571)272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. L./

Application/Control Number: 10/593,604

Page 12

Art Unit: 3663

Examiner, Art Unit 3663

/Jack W. Keith/

Supervisory Patent Examiner, Art Unit 3663